

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

THIS PAGE BLANK (USPTO)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 March 2001 (22.03.2001)

PCT

(10) International Publication Number
WO 01/20428 A2

(51) International Patent Classification⁷: **G06F**
(21) International Application Number: **PCT/US00/25418**
(22) International Filing Date:
15 September 2000 (15.09.2000)
(25) Filing Language: **English**
(26) Publication Language: **English**
(30) Priority Data:
60/154,372 17 September 1999 (17.09.1999) **US**
(71) Applicant: **FIGURE9, LLC** [US/US]; 62 William Street,
New York, NY 10005 (US).
(72) Inventors: **ROY, Alexander, D.**; 250 Mercer Street, Suite
C414, New York, NY 10012 (US). **LAI, Chu, T.**; 286

South Street, Apt. 15D, New York, NY 10002 (US). **KUN-
STLER, Donald, F.**; 861 Broadway, 4th Floor, New York,
NY 10003 (US).

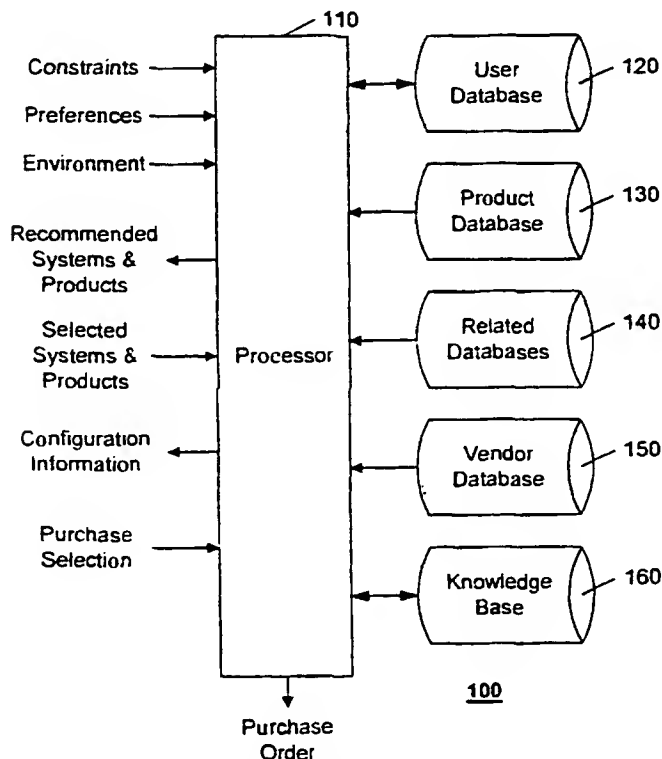
(74) Agent: **DEROSA, Frank, J.**; Brown Raysman Millstein
Felder & Steiner LLP, 120 West 45th Street, New York, NY
10036 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

[Continued on next page]

(54) Title: **CONSUMER ELECTRONICS SYSTEM CONFIGURATION**



(57) Abstract: A configuration system provides configuration information for electronic components and systems, particularly for consumer electronics components and systems. The configuration system may include one or more of the following: a system configurator, a wiring configurator, and a placement configurator. An integrated configuration system includes two or all of the configurators. The integrated configuration system combines content, guidance, and commerce, uniquely tailored to the

[Continued on next page]



WO 01/20428 A2

IT, LU, MC, NL, PT, SE). OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- Without international search report and to be republished upon receipt of that report.

needs of consumers in a particular field of electronics. In a preferred embodiment, consumers enter preferences relating to audiovisual products and receive personalized recommendations for components available for purchase. The wiring configurator generates customized wiring diagrams for selected components, to identify required interconnection devices, and to ease the task of interconnecting the components. The placement configurator, or room configurator, allows the consumer to enter room dimensions, furniture location and other relevant information, and provides guidance for optimal audiovisual product selection and placement. A database of audiovisual component information provides component specifications, product reviews, reliability and repair ratings, compatibility and interaction issues, and other information that assists the consumer in the component selection process, and also includes detailed technical information to assist the consumer in the installation process, including providing wiring diagrams for each combination of products. The database is provided in searchable form that can be used in connection with templates or other search techniques to enable a user to specify one or more preferences and be provided information about audiovisual products that are available that satisfy the identified preferences.

CONSUMER ELECTRONICS SYSTEM CONFIGURATION

This application claims the benefit of U.S. Provisional Application No. 60/154,372,
5 filed 17 September 1999, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

This invention relates to the field of electronics systems configuration, particularly for
10 consumer electronics systems, including computers. More specifically, the invention relates to
systems and methods that interactively assist consumers in the selection, purchase use, etc. of
consumer electronics products, and the retrieval of information relating to such products.
("Consumer electronics is used herein in a broad sense and includes, among other electronics
equipment, computer equipment typically purchased by a consumer.) Although the invention has
15 particular application to the consumer electronics field, the invention has application to other
equipment in other fields, as will be apparent from this patent document now and as technology
develops.

As technology advances in the field of consumer electronics equipment at a rapid rate,
consumers find purchasing such equipment increasingly difficult. Many advanced consumer
20 electronic products provide individualized features where performance is best under certain
conditions and for specialized uses. Therefore, it is important to purchase consumer electronics
equipment that fits the specific needs of the consumer. Due to the variety of possible selections
for a particular consumer electronics product, thorough research and a calculated decision are
often required when making a purchase. Compounding this decision process, consumers often
25 stagger the purchase of sophisticated consumer electronics equipment, due to the high cost. Thus,
each purchase decision must include an assessment of the product's compatibility with that of the
consumer's existing system. Currently, consumers often engage in extensive research to find the
type of equipment that best suits the consumer's individual needs. The amount and quality of
information regarding the equipment is usually sparse, and often favor a particular merchant or
30 brand name. Retailers may be biased toward the products they have in inventory. Magazines are

limited in the number of products they can review in a given year. Internet resources do not combine information coherently, and fail to provide adequate guidance in the selection process, compared to the convenience of buying from a single location.

5 The potential confusion in the selection and purchase process is problematic to both the consumer and the vendor. Consumers do not necessarily trust the information that a salesperson provides, and salespeople are often frustrated in their attempts to assist the buyer, due at least in part to this distrust. Salespeople cannot be expected to know every detail regarding the interconnection among different devices, particularly among old and new products, and often fail to provide the appropriate cables or adapters for the interconnection, necessitating a return visit
10 by a now-frustrated customer. This frustration can cause a loss of future sales, and may even cause a loss of the current sale, if the customer decides to return the merchandise because of a perceived compatibility problem.

SUMMARY OF THE INVENTION

15 It is an object of this invention to ease the task of selecting electronic, particularly consumer electronics, components and systems. It is a further object of this invention to improve the likelihood of compatibility of purchased electronic, particularly consumer electronics, components and systems with previously purchased electronic components and systems. It is a further object of this invention to facilitate the purchase of electronic, particularly consumer
20 electronics, components and systems. It is a further object of this invention to facilitate the purchase of items required to effect compatibility among electronic, particularly consumer electronics, components and systems. It is a further object of this invention to alleviate the frustrations commonly associated with the purchase of electronic, particularly consumer electronics, components and systems. It is a further object of this invention to provide a system
25 that increases sales to a consumer electronics component and system vendor.

These and other objects of the invention are achieved by a system and method which provide information useful for selecting, purchasing, assembling, placement and/or connecting components of an electronics system, e.g., a consumer electronics system such as an audiovisual system, and/or for operating such a system or component thereof. At least the selecting and/or

assembling and/or placement information is provided in response to information concerning a user's preferences, requirements and/or constraints, for example, and/or other information.

5 Selecting, purchasing, assembling, placement, connecting and operating electronic components and systems may be refined to as configuring a system or component for ease of description, and information relating thereto may be referred to as configuration information also for ease of description. Similarly, user or consumer preferences, requirements, constraints and problems which may encompass overlapping items, may be referred to herein as user or consumer information. "Consumer" and "user" are used interchangeably herein, unless the context indicates otherwise. Also, a user may be a sales person entering information on behalf of
10 a consumer and such a user would be encompassed by the term "consumer".

 Such a system and method can be implemented with a computerized system that stores information relating to electronics systems and components, and configuration information relating to such systems and components. The computerized system also includes programming which provides the information identified herein in response to user or consumer information and
15 other information of the type identified herein input to the computer system.

 The stored information may include configuration information such as component specifications (such as technical specifications, size, weight, placement and use restrictions, etc.), model information, connection information, use information, pricing, availability, shipping, warranty, color, product reviews, trouble shooting information, and other information that may
20 be useful or helpful to a user or consumer. The user or consumer information input into the system may include user or consumer preferences, technical and non-technical requirements and/or constraints, equipment or operating problems, etc.

 The information provided by the system for a specific user or consumer can be stored for later access in connection with a further request for information in connection with that
25 consumer. For example, a consumer may want to add to or modify a consumer electronics system about which the inventive system has stored information, or a user may have a connection or operation problem relating to a consumer electronics system about which the inventive system has stored information, etc.

In accordance with the invention, the inventive system can be accessed remotely via a communications network. For example, the inventive system can be accessed using a PC via the Internet.

In an audiovisual implementation, specifically a stereo system, the inventive system stores information of the type described herein for various audio components (e.g., amplifiers, receivers, input devices (e.g., CD, DVD and tape players), speakers, mixers, etc.), and information for combining, connecting and operating the components in various systems. In this implementation, the system also includes programming for selecting compatible components which meet consumer information.

A configuration system is provided which includes one or more of the following: a system configurator, a wiring configurator, and a placement configurator. An integrated system includes two or both of the configurators. The integrated configuration system combines content, guidance, and commerce, uniquely tailored to the needs of users or consumers for the type of equipment involved. In a specific embodiment, the configuration system provides configuration information for audiovisual components. Therefore, description continues with respect to audiovisual components with the understanding that the configuration system may be used in connection with other electronic equipment.

Consumers enter consumer information in the form of preferences relating to audiovisual products and receive configuration information in the form of personalized recommendations for components available for purchase. The wiring configurator generates configuration information in the form of customized wiring diagrams for selected components, to identify required interconnection devices, and to ease the task of interconnecting the components. The placement configurator, or room configurator, allows the consumer to enter room dimensions, consumer information in the form of furniture location and other relevant information, and provides configuration information in the form of guidance for optimal audiovisual product selection and placement. A database of audiovisual component information provides component specifications, product reviews, reliability and repair ratings, compatibility and interaction issues, and other information that assists the consumer in the component selection process, and also includes detailed technical information to assist the consumer in the installation process, including providing wiring diagrams for each combination of products. The database is provided in

searchable form that can be used in connection with templates or other search techniques to enable a user to specify one or more preferences and be provided information about audiovisual products that are available that satisfy the identified preferences.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is explained in further detail, and by way of example, with reference to the accompanying drawings wherein:

FIG. 1 is a block diagram illustrating a configuration system in accordance with this invention.

FIG. 2 is a block diagram illustrating an embodiment of an Internet-based configuration system in accordance with this invention.

FIG. 3 is a block diagram illustrating the components of an example embodiment of a configuration system in accordance with this invention.

FIG. 4 illustrates an example flow diagram of a system configurator in accordance with this invention.

FIG. 5 illustrates an example flow diagram of a wiring configurator in accordance with this invention.

FIG. 6 illustrates an example flow diagram of a room configurator in accordance with this invention.

FIGS. 7 and 8 are other block diagrams illustrating configuration systems in accordance with the invention.

Throughout the drawings, the same reference numerals indicate similar or corresponding features or functions.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The invention is presented herein using the paradigm of an audiovisual configuration system. As pointed out above, it will be recognized by one of ordinary skill in the art that the principles of this invention will be applicable to configuration systems for other components as well, such as a system for configuring consumer electronics systems such as a computer system, a security system, a home automation system, and so on.

FIG. 1 illustrates an example overview of a configuration system 100 in accordance with this invention. The system 100 includes a processor 110, and one or more databases 120-160 that facilitate the selection and configuration of audiovisual components and systems, in dependence upon consumer information such as preferences, requirements, and/or constraints. In a preferred embodiment, the system allows audiovisual consumers to create highly personalized systems through a simple interface, that allows the consumer or user to create an audiovisual system "from scratch", or to augment an existing system. For example, to ease the task of inputting detailed requirements, the user is able to choose from system templates that facilitate an identification of a general classification underlying the requirements for the system, such as *home theater, dorm, lifestyle, audiophile*, and so on. The processor 110 uses the selected template to guide the subsequent input processes. For example, if the user is an audiophile, the user is presented queries regarding desired frequency response, total harmonic distortion, and so on. These detailed technical queries are bypassed in other templates, and the corresponding parameters are set to contain default parameters, based on the template type. The user also enters basic preferences requirements and constraint such as budget, desired capabilities, room type, and so on. In a preferred embodiment, the user preferences, requirements, constraints, etc. are stored in a user database 120, to avoid having the user re-enter previously submitted information. The processor 110 includes capabilities for the user to edit or delete any previously submitted information.

In a preferred embodiment, the user database contains such items as: compatible inputs and available outputs for common components, frequency, power, performance, color, weight, dimensions, format, size, finish, merchandising classification, placement, intended use, feature set, functionality, compatibility with other components, assigned subjective characteristics including but not limited to reliability, value, listening levels, movie/music preferences, brand preferences, viewing/listening distance, and so on.

Note that, in a preferred embodiment, the consumer is provided the opportunity to enter this information directly, without intervention by a salesperson. In this manner, the consumer may be more inclined to enter accurate information, and a better assessment of the appropriate system for the consumer can be made. That is, for example, a consumer may be more willing to provide a true budget figure, or true room dimensions, to a computerized configuration system

than to a salesperson. In like manner, the consumer is less likely to feel pressured to purchase one particular system or component, because the system is configured to provide recommendations based on the consumer's input, which may be changed at any time.

5 In response to the user input, directly, or via the user database 120, the processor searches the available product database 130 and provides recommendations. "Database" is meant in a broad sense and encompasses any collection of material that is organized to facilitate retrieval. A database is a logical entity, and may include one or more physical storage devices and one or more sets of database-utilities, such as search and retrieval modules. For example, the database 120 may be a consolidation of audiovisual information at a single server site, or it may be sources
10 of information located at multiple server sites. Preferably, to provide a wide range of options, a database may include sources of information located at Internet sites.

The product database includes a variety of information items and parameters relating to particular products, as well as general information related to specific product lines, multi-component systems, and so on. In a preferred embodiment, the information for each product
15 preferably includes: compatible inputs, available outputs, frequency, power, performance, color, weight, dimensions, format, size, finish, merchandising classification, placement, intended use, feature set, functionality, compatibility with other components, and other parameters and characteristics. For ease of reference, the variety of characteristics or configuration information associated with each product or component in the database is referred to herein as the product's
20 "operational characteristics", even though some characteristics, such as color and finish, may not directly relate to the operation of the product per se.

The processor provides one or more recommendations (configuration information) for products or systems in response to the input consumer information. The user is provided the option of selecting from among the recommendations, or revising the input information and
25 repeating the search. Depending upon the level of detail requested, the processor provides configuration information related to the selected products or system, and also provides information regarding such items as cables and accessories for configuring the system, purchasing information, such as available vendors, the price at each vendor, and so on. A vendor database 150 provides information related to each vendor, including customer satisfaction
30 reports, delivery time statistics, and so on. In cooperation with vendors of the products or

systems, the processor may also provide information regarding product inventory information such as the availability of each component at select vendors, expected delivery time, and so on. Related databases 140 could include information regarding shipping options and providers, tax tables, and general information regarding audiovisual systems, existing and future standards, market trends, and the like.

The processor 110 is configured to store a description of the user's existing system and components in the user database 120. This description may be entered directly by the user, and upgraded automatically as new products are selected via the processor 110. The processor 110 provides the user with the option of editing this database at any time. By maintaining an inventory of each user's existing configuration, each user is able to upgrade or downgrade the system and its components, with minimal effort.

Most consumers already own at least one audiovisual product, and therefore the system 100 is configured to allow the user to create a context within which to select additional audiovisual products. The user is able to enter products they currently own into the system 100, and select from options such as "Add a DVD Player" or "Upgrade to Home Theater." The system 100 matches the system to templates and searches the Product Database for compatibility, correlating the consumer's existing system against known "good systems." The system 100 may provide the user the option of entering as few or as many preferences as the user desires, typically beginning with budget and room type. Users have the option of entering additional preferences including musical and movie tastes (*rock, jazz, classical, rap, action*) ease of use (*system remote, knobs vs. buttons*) and size (*rack, shelf, depth*). The more information submitted, the greater the accuracy and suitability of the processor 110's recommended components.

The construction, operation and use of the configuration system of this invention are illustrated by the following examples:

Example 1: User A wants to buy a home theater for his newly renovated basement. He accesses the system 100, selects the "Home Theater" template, and enters a target budget of \$3000. He enters his room size (*16'x25'*) and favorite movie (*Star Wars*). In response to this input information, the system 100 provides at least one audiovisual system configuration, and perhaps alternative products for one or more of the components within the audiovisual system. At varying levels of detail, User A is able to review information associated with each system or

component, such as product reviews, manufacturer's warranties, product specifications, and the like. The system 100 identifies a preferred system configuration, and a preferred set of components, to ease the selection process. The preferred system and components will be based at least in part on the user's preferences, including such items as delivery time, single source
5 supplier, reliability, and so on. Additionally, in conjunction with select vendors, the system 100 may also provide discounts and other promotions to the user. Upon consideration, User A selects a set of components, including a VCR, DVD, HDTV, and a surround-sound system with speakers, and requests a consolidated report. The report includes the selected components, as well as the required cables, connectors, and other items required to interconnect the selected
10 components, the individual prices, and a total system price, including discounts. User A then provides his credit card number, and the system 100 issues one or more purchase orders to the selected vendors to effect the purchase of the selected components and ancillary devices to configure the selected system. The system 100 also provides other configuration information, in the form of instructions, drawings, and schematics for installing each component, and for
15 interconnecting among components. The system 100 also records the information related to this transaction in a database 120 that is associated with User A.

Example 2: A month later, User A decides he wants additional bass. He accesses the system 100, identifies himself, and selects "heavy bass" in the user profile input segment of the system 100. In response to this input, the system 100 recommends a particular subwoofer that is
20 compatible with his existing system, and is suitable in his environment, based, for example on his room size. The system 100 identifies whether additional cabling or connectors are required, based on knowledge of the items included with the recommended subwoofer and knowledge of User A's existing system and environment. The system 100 also provides a wiring diagram and explicit instructions regarding the addition of the subwoofer to the specific components in User
25 A's inventory of audiovisual equipment.

FIG. 2 illustrates an example embodiment of an Internet-based configuration system in accordance with this invention. In this example embodiment, the configuration system is accessed via an Internet connection from a consumer's home 250, or from a kiosk at a retailer's location 260. For example, a consumer may use a PC at home having an input device (e.g., a
30 keyboard, mouse, disc drive, CD reader, etc.) coupled thereto and a display (e.g., a monitor or

printer). A retailer may use a computer, which can be a PC, also having an input device and a monitor coupled thereto. The access rights to the configuration system 100 will be controlled by the provider of the configuration system 100. In one business model, the provider of the configuration system 100 licenses the use of the configuration system 100 to individual retailers.

5 A consumer enters the retail store, logs into the system via a kiosk provided by the retailer, and commences a configuration session. The retailer provides this service in order to distinguish itself from competing retailers, to reduce the workload on sales staff, and to avail itself of the opportunity to sell the selected systems and components to the consumer. In another business model, the consumer interacts with the configuration system 100 directly, via any Internet access
10 device, such as a computer or set-top box in the consumer's home 250. The provider of the configuration system provides this service in return for advertising revenue, by including vendor advertisements during the consumer's interactive sessions. In another business model, the consumer accesses the configuration system 100 from any Internet access device, including a kiosk at the retailer's site 260. In this model, the advertisements provided to the user are related
15 to the particular retailer 260. In related business models, an on-line vendor 270 is provided the same options as the retailer 260.

As illustrated in FIG. 2, the configuration system 100 includes internal databases, and has access via the Internet to other database servers 220. (not illustrated). The consumer site 250 and the retailer site 260 may also include local databases. For example, the local database may
20 reside on the user's home computer (although this would limit the user's ability to recall prior data from other access sites). Similarly, inventory information may be located at each retailer 260 or on-line vendor 270 site. Various structures, locations, and forms of individual databases accessible by the configuration system may be employed and various database storage and access techniques are known in the art. Preferably, the choice of storage and access techniques are such
25 that the user does not become bored or distracted while waiting for the system to provide the requested information. Techniques common in the art for providing "fill-in" material during processing delay times, such as advertisement for related items, are used in a preferred embodiment of this invention.

For ease of reference and understanding, some information items are herein referred to as
30 being stored at or accessed from a particular database, such as the "user database", the "product

database" and so on. It will be evident to one of ordinary skill in the art that this convenience-nomenclature does not limit the principles of this invention to a particular partitioning or structure of the one or more databases that are accessed by the configuration system 100. Except as otherwise noted, the term database encompasses any of the databases 120-160 of FIG. 1, and 5 210-220 of FIG. 2, and the aforementioned non-illustrated databases at sites 250-270.

In a preferred embodiment, the database contains aggregated information from a wide variety of sources. The database contains at least information regarding audiovisual equipment and may include photographs and user manuals as well. Equipment may include video cassette recorders, camcorders, compact disk players, amplifiers, speakers, cassette decks, televisions, 10 stereos, subwoofers, DVD players, and other audiovisual products. The database may also contain templates for various categories of audio visual systems, room templates, detailed information on preferences, user personal information, and information for determining optimum audio visual systems, wiring configurations and room setups based on the components, user preferences and other relevant information.

15 In a preferred embodiment, product information is arranged in the database in a hierarchical manner, as follows:

Family (e.g. Audio or Video)

Native Format (e.g. Analog or Digital)

Product Category (e.g. VCR, DVD, Amplifier, Receiver, etc.)

20 SKU (Specific Product Identification).

As will be evident to one of ordinary skill in the art, alternative structures and relationships may be utilized as well, and particular products may be included as multiple entries in the database.

The database also includes relational items and functions that facilitate an efficient search and retrieval. The following functions are particularly well suited for the retrieval of information 25 in the context of an audiovisual database:

Cross-sell: Items in the database can be related to other items in the database, based on typical companion sales. For example, if a user is selected information on portable CD players, the cross-sell function will facilitate access to information on headphones, AC adapters, batteries, and so on.

Up-sell: Items in the database can be related to other items in the database, based on a hierarchy of product characteristics. The hierarchy is typically related to a particular manufacturer's product line, but may include relationships among competing product lines as well. A variety of hierarchies may be provided, such as hierarchies related to price, performance, reliability, feature sets, and so on. In a preferred embodiment, the up-sell function provides a list of "up-products", and the configuration system filters the list, based on the aforementioned user preferences, requirements, constraints, environment, and so on. The up-sell function may also be used to provide targeted advertisements to the user, either during the initial system configuration session, or during any subsequent session, based on knowledge of the user's current inventory of equipment.

Other functions are also provided to provide information related to identified products or classes of products, including functions that provide related warranty or rebate information for each product, service contact information, and other information, at various levels of detail and functionality.

Detailed information stored in the database may include specifications from published guides and books. This may also include specifications from manufacturer's data. Branded third-party reviews and for-staff reviews may also be stored in the database. Such reviews may cover a wide variety of topics, such as ease of use, aesthetics, room placement and subjective sound quality. The database may include community reviews such as owner comments, surveys and polls as well as recent product news, news on new products, industry news, etc. Such information can be linked to new product releases and users may elect to receive such information via e-mail. Through polls, surveys and discussion groups, site visitors may contribute data that will enhance the value and accuracy of the information stored on the database.

Also preferably included in the database is system matching and compatibility information. This information may include objective and subjective information such as the quality of a product positioned in a room of a particular size. For example, a particular speaker may work well for large rooms. The database may also store combinations of products that are known to work well together. This information is compiled through community submissions, in-house experience and review data. Photo and user manuals may also be housed in the database. This information may be drawn from manufacturer's literature and CD-ROMs. Connection

mapping information including component terminal configurations may also be stored in the database. This information may include connection information for use by the consumer, as well as consumer service and sales support personnel.

5 In a preferred embodiment, a natural language database is provided to answer questions regarding common problems, incorporating data from product manuals, manufacturer CD-ROMS, prior consumers, community postings and in-house experience.

As noted above, the database also contains information related to each user, and each user's environment(s). Users are able to enter their existing products, systems and entertainment preferences into personal profiles that are saved and retrieved during each visit to the Web site.
10 These profiles are used to create a customized shopping experience, as well as to inform consumers of specific new product releases and updates that will be of interest. This information is also used to customize the consumer's experience while shopping at any co-branded entertainment retail sites, such as CD, video and ticket sales.

FIG. 3 illustrates an example block diagram of the components of an example
15 embodiment of a configuration system in accordance with this invention. In this example embodiment, the functions of the processor 110 are partitioned into three sub-systems: a system configurator 310, a wiring configurator 320, and a room configurator 330. As with the database partitioning, it will be recognized by one of ordinary skill in the art that the principles of this invention are not limited to the particular configuration of FIG. 3.

20 The system configurator 310 provides the majority of the features, discussed above, related to the selection of components and systems in response to consumer information. The system configurator 310 operates in conjunction, as required, with the wiring 320 and room 330 configurators. In a preferred embodiment, the system configurator 310 allows for multiple concurrent versions of recommended and actual systems, to allow for "what-if" comparisons of
25 various configurations by the user. The user database is similarly structured to contain the user's actual system, as well as one or more hypothetical systems, to allow the user to create a preferred system configuration through multiple access-sessions with the system configurator 310, and the other configurators 320, 330.

General information about the layout configuration content and acoustical parameters of a
30 room may be entered via the room configurator 330 for variety of purposes. This information is

used, for example, to determine components that are suitable for the room based on the parameters entered. For example, large speakers in a small space may not be convenient. Low power speakers in a large space may not be effective. In like manner, the required power output of a system, or the appropriate size of a display screen, can be provided, based on the input room configuration, as well as the user preferences.

In a preferred embodiment, the room configurator 330 allows consumers to select from various blank "Room Templates," into which they are able to drag- and drop- icons representing furniture, flooring, drapes, carpets, and so on. The user is also able to enter preferences and constraints, including but not limited to: furniture type, location and size; placement, nature, size and brightness of natural and artificial light sources; dimensions of room, nature and finish of floors, walls, ceilings and doors; listening/viewing/working positions; location of available electrical sources, and so on.

The user is also provided the option of defining and storing multiple rooms and corresponding component placements relative to each other, in order to generate recommendations for multiple room/whole home/office profiles, individually or collectively.

The room configurator 330 draws upon the "Good Systems" designation in the database, and the consumer's stored profile, if available, to provide recommendations based on room acoustics and product placement in the consumer's home. Additionally, in conjunction with the wiring configurator 320, the user is provided information regarding the amount of wire or other connection devices necessary to set up selected components in the specified room. The room configurator 330 includes audiovisual-specific query templates, including such questions as "Subwoofer placement preference", with selection options of "Against a wall", "Out of sight", "Near source", and so on. Alternatively, the user is provided the option of explicitly placing components within the room. In a preferred embodiment, the room configurator 330 can assess a proposed layout, including user-specified and system-recommended placements of components, and provide other recommendations, or point out particular problems with the proposed layout.

The wiring configurator 320, in conjunction with the system 310 and room 330 configurators, provides an analysis of the selected system or components to determine how each component is best integrated into the system. Based on the connections (terminals) information entered for each product in the database, and coding and logic discussed below, the wiring

configurator 320 generates wiring diagrams for any feasible combination of products in the product database. This is facilitated by having the input and output terminals for each product stored. The electrical and physical characteristics of each terminal are preferably coded in a standard form. For example, a CD player's left audio output, regardless of the CD vendor, is encoded using a consistent code for left-audio-output. In like manner, common terminal types, such as "RCA-phono-female", or "Screw-terminal-Phillips", have consistent codes. In a preferred embodiment, the component descriptions include the actual location of each terminal, as either an annotated figure, or as coordinate information, from which a figure can be drawn. The wiring configurator 320 includes general mapping logic that dictates which terminals of which devices should be connected together (e.g. "left-audio-output" to "left-audio-input", "player devices" to "rendering devices", "pre-amp-output" to "amp-input", and so on). In a preferred embodiment, the wiring configurator 320, and the other configurators 310, 330, include reasoning devices and systems, such as Expert Systems, Knowledge-based Systems, Learning Systems, and so on, to facilitate the creation of efficient and effective wiring and configuration diagrams and corresponding instructions.

The wiring configurator 320 accesses the database to determine the appropriate cables, wires, connectors, adapters, switches, distributors, transmitters, or receivers, to effect the desired system configuration. The required connection items are communicated to the user for subsequent selection and purchase, as desired.

The processor 110 also provides an optional "shopping cart" module 340, which may be included in the system configurator 310, or the other configurators, as desired. The shopping cart 340 allows a user to purchase audiovisual equipment via the audiovisual configuration system 100. To make a purchase, the consumer need only place the desired audio visual equipment into a virtual shopping cart and provide the information necessary for the transaction, e.g., shopping and billing address, credit card information, etc. The shopping cart carries out the remaining steps required to make the purchase from one or more merchants. As in conventional shopping cart processes, the consumer may view his or her purchases, and add or delete items from the shopping cart, preferably without reloading the main screen.

The configuration system 100 also provides for at-home setup and troubleshooting information and assistance. Once audiovisual equipment has been purchased, the user may

request assistance in setting up the equipment via the room 330 and wiring 320 configurators, and may purchase installation assistance, via the shopping cart 340. If the user makes changes to the system, such as by rearranging the placement of items, the room 330 and wiring 320 configurators can be re-accessed to provide installation instructions, as required, and to provide information regarding additional wiring or cabling that may be necessary. Thus, the present invention provides a full service system from beginning to end.

FIG. 4 shows an example flow chart of system configuration process 400, as may be used in the system configurator 310 of FIG. 3. The system configurator 310 provides consumers with the ability to create personalized audiovisual systems through a simple interface. The consumer may select "System Configurator" to initiate the system configuration process, to either create a new system or modify an existing system. If the user is configuring a new system, or is a new user to the system, the user chooses a template, at 410, to facilitate the entry of data items, and to create a user profile, at 420, with particular default parameter values, depending upon the selected template. In a preferred embodiment, the selectable system templates include home, theater, dorm, lifestyle, audiophile, and other applicable categories. If the user has an existing system, the process continues at 425, discussed below.

The user who desires to configure a new system selects preferences, at 430, which will be applied to modify the characteristics of a particular template, and to adjust the parameters of the user profile, to create a more personalized system. Preferences may include parameters such as a defined budget, a room type or room size, a minimum or maximum power requirement, a brand preference, preferences for types of music, sound quality, ease of use, size, etc. The user may also selectively upgrade or downgrade particular component criteria or defaults. After processing the user's preferences and criteria, the database is searched, at 440, for components and systems that conform to the user's profile of requirements, preferences, constraints, and so on. The recommendations are provided to the user, at 450. Recommended systems may include other important information, such as a list of needed cables and accessories, as discussed above, and as discussed hereinafter with regard to the wiring and room configuration processes 500, 600.

Note that in a preferred embodiment, the user interface allows for a smooth transition among the variety of processes 400, 500, 600, and other processes. The individual processes are configured to provide particular services in an optimal manner, but, ideally, the user is not aware

of boundaries between these processes. Conceptually, all information is integrated and easily available among the variety of processes, so that the user can easily switch contexts, regardless of the particular structure used to provide the processes.

5 In a preferred embodiment, user-focused categories are also provided. For example, pre-packaged systems can be merchandised by lifestyle, such as living room, dormitory, theater, kitchen, and other types of rooms. These categories may further be segregated within price range by the level of performance. These and other arrangements of information will be evident to one of ordinary skill in the art in view of this disclosure.

10 If the user is updating a system, the path 415-435 is used to determine the user's current request. If the user is a prior-user of the configuration system, the user's profile is retrieved, at 415. Note that, in a preferred embodiment, a user may have multiple profiles: a home profile, an office profile, an entertainment-center profile, and so on. Common information, such as the user's identification, common characteristics, etc. is shared among each profile, to minimize the entry of redundant information. For ease of reference, the user profile presented herein is the currently
15 selected user profile, if the user has multiple profiles.

The user may update the user profile, at 425, by identifying any changes, and adding any items in the user's inventory that have not yet been added. A new user (from step 420) uses this step 425 in the process to define an existing system, and to update any other information in the user profile. The user selects preferences, at 435, similar to configuring a new system, at 430. A
20 different 'select preference' block 435 from the 'selection block' 430 is shown in FIG. 4, to illustrate that the process 400 is context sensitive. Although the user has access to the same capabilities in blocks 430 and 435, the process 400 is configured to present different series of questions and interfaces, depending upon whether the user is creating a new system or merely adding a component. In like manner, each functional block in the figures of this disclosure could
25 be represented as different blocks, depending upon the current context of the corresponding process. For convenience, a single block is illustrated for a common functional task.

As noted above, the user is provided the option of entering as few or as many preferences as desired. Users may specify musical preferences, such as jazz, classical, or rock and movie preferences, such as romance, action, or horror. Other preferences may include ease of use, such

as system remote, knobs or buttons. A physical preference may include the size, such as rack, shelf or depth.

The database is searched, at 440, by applying the user's preferences and considering compatibility issues thereby correlating the user's existing system with a known combination of equipment that is compatible and in accordance with the inputted user preferences to generate recommendations. The recommendations are then presented to the user, at 450.

At 460, the user is provided the option of selecting recommended systems or components, or, if desired, the option of updating the user profile and repeating the process, from 425. Note that the selection may be based upon information that is gained via the wiring or room configuration processes 500, 600. That is, for example, in choosing between components, the user may base this choice on the complexity of interconnecting each component to the system, the suitability of the component with the user's environment, and so on.

As noted above, a separate 'shopping-cart' process may be provided to facilitate the purchase of selected components or systems, and related products. The purchase process is illustrated in FIG. 4 as being included within the system configuration process 400, at 470. As noted above, this process 470 is preferably configured to also facilitate the purchase of ancillary equipment, cabling, and so on, as well as the purchase of services for installing the purchased equipment.

At 480, the user's profile is updated, reflecting not only the newly acquired equipment, but also any characteristics of the user profile that was learned from this encounter with the user, and previous encounters. As noted above, for example, the system 100 may include expert systems, knowledge based system, learning systems, and the like that facilitate the determination of appropriate equipment for the user. In accordance with this invention, these expert and other systems can be used to update the user profile. For example, if the user classifies himself as an audiophile, but always chooses below-average components, the expert and other systems may be configured to modify the user's classification, preferably in a discreet manner. Personalization is an important aspect of a consumer's shopping experience. A user may enter product, system and entertainment preferences into personal profiles that will be saved and retrieved during each visit to the web site. The user may also enter personal information including e-mail address, telephone numbers, billing address, credit card information, etc. These profiles may be used to create a

customized shopping experience, as well as inform the user 50, 52 of new product releases and updates.

FIG. 5 shows an example flow chart for a wiring configuration process 500, as may be used in the wiring configurator 320 of FIG. 3. The wiring configuration process 500 generates an instructional set-up diagram based on the user profile and the system configuration that was selected via the system configuration process 400. After this information is obtained, at 510, 520, the wiring configuration process determines the wiring requirements for effecting the selected configuration, at 530. The user profile includes the user's existing components and devices, and the wiring configuration process determines the additional wiring and other interconnection requirements in view of the existing configuration. The wiring requirements are processed, at 540, using information that is stored in the database regarding connection mapping. The recommended wiring and other devices required to effect the intended system configuration is provided to the user, at 550, and the user is provided the opportunity to purchase any of the recommended items, at 560. The information concerning how the systems should be wired is also provided, at 570, including schematics, pictorial diagrams, and text instructions to the user. Not illustrated, the instructional information may also be stored, at either the server that provides the configuration system, or at the user's site. Thereafter, the stored instructional information and stored wiring diagram may be accessed for use in at-home setup or troubleshooting.

As discussed above, the wiring configuration process 500 may be used in conjunction with the system configuration process 400 and the room configuration process 500. For example, the amount of wire necessary to connect the selected components may be determined based on the dimensions provided in the room configuration process 600. In like manner, particular components may be selected during the system configuration process 400, depending upon the information provided by the wiring configuration process 500 regarding the complexity, or cost, of interconnecting particular components to the other components of the system.

FIG. 6 is an example flow chart of a room configuration process 600, as may be used in the room configurator 330 of FIG. 3. The room configuration process 600 is intended to facilitate the optimal placement of an audiovisual product, or the components of an audiovisual system, in the user's environment. The term "room" is used herein for ease of reference. The area being configured may be an entire house, an auditorium, a theatre, and so on. The user is provided the

option of selecting a room template, at 610, or retrieving an existing profile that contains the room information, at 615. Room templates preferably include specifications regarding the length, width, height of the ceiling, placement of windows and doors, and other similar specifications. The user configures the room to correspond to the user's environment, at 620, preferably by dragging and dropping icons representing typical items found in a room. The material, measurement, and other characteristics of the icons may also be specified by the user during this process. The user selects the audiovisual component or components to be placed in the room, at 630, based on the information regarding the current system configuration, via the system configuration process 400. The room configuration process 600 provides placement options such as "against the wall", "hidden", and so on. The room configurator accesses the database to output a highly accurate recommendation based on the audio visual components specified, the room characteristics, and any user preferences, requirements, or constraints, at 640. The room configuration process, at 640, may also suggest moving a particular piece of furniture to maximize audio or visual performance. Alternatively, the room configurator may be used to facilitate the specification of a user-determined placement. The user's profile is updated with the specified room configuration and the placement of components, at 660. As noted above, the room configuration process 600 operates in conjunction with the system and wiring configuration processes 400, 500, to receive and provide configuration and other information as required.

In the embodiment depicted in FIG. 7, the configuration system 700 includes a computer 702, an input device 704, and a display 706. The input device 702 is conventional, implemented, for example, by a keyboard, pointing device (e.g., a mouse), or disc drive or CD reader, or another computer, etc. Similarly the display 704 is conventional, implemented, for example, by a monitor, printer, etc. The computer 702 accesses a database 706, implemented as discussed herein.

Referring to FIG. 8, the integrated system 100 includes a central station 10, which may include a server 12, a processor 14, and a database 16. The server 12 retrieves product information from database 16. Central system 10 may include a server 12 as shown or the system 100 may be implemented on a network (wired or wireless), on the Internet or an intranet, on a stand alone personal computer, at a kiosk in a store or in any other suitable manner. In

other words, the system 100 is not hardware or architecture dependent and thus can be implemented using any suitable hardware.

Database 16 contains aggregated information from a wide variety of sources. Database 16 contains at least detailed information regarding audio visual equipment and may include photographs and user manuals as well. Equipment may include video cassette recorders, camcorders, compact disk players, amplifiers, speakers, cassette decks, televisions, stereos, subwoofers, DVD players, and other audio visual products. Database 16 may also contain templates for various categories of audio visual systems, room templates, detailed information on preferences, user personal information, and information for determining optimum audio visual systems, wiring configurations and room setups based on the components, user preferences and other relevant information.

Detailed information stored in database 16 may include specifications from published guides and books. This may also include specifications from manufacturer's data. Branded third-party reviews and for staff reviews may also be stored in database 16. Such reviews may cover a wide variety of topics, such as ease of use, aesthetics, room placement and subjective sound quality. Database 16 may include community reviews such as owner comments, surveys, and polls as well as recent product news, news on new products, industry news, etc. Such information can be linked to new product releases and users may elect to receive such information via e-mail. Through polls, surveys and discussion groups, site visitors may contribute data that will enhance the value and accuracy of the information stored on the database.

Also preferably included in database 16 is system matching and compatibility information. This information may include objective and subjective information such as the quality of a product positioned in a room of a particular size. For example, a particular speaker may work well for large rooms. Database 16 may also store combinations of products that are known to work well together. This information is compiled through community submissions, in-house experience and review data. Photo and user manuals may also be housed in database 16. This information may be drawn from manufacturer's literature and CD-ROMs. Connection mapping information including component terminal configurations may also be stored in

database 16. This information may include connection information for use by the consumer, as well as consumer service and sales support personnel.

One or more remote users 50, 52 may access the system configurator 20, the wiring configurator 30, and the room configurator 40 or any combination thereof. Configurators 20, 30 and 40 are included in processor 14. Processor 14 is connected to server 12 so that database 16 can be accessed by each configurator 20, 30, 40 through server 12. In addition, processor 14 can be employed by any of the configurators 20, 30 and 40 to process information from database 16, information input by a user 50, 52 or a combination thereof. Another feature of the system 100 is a shopping cart which may be employed in conjunction with the system configurator 20 or on its own to allow a user 50, 52 to make purchases of audio visual equipment. To make a purchase, the consumer need only place the desired audio visual equipment into the virtual shopping cart and provide the information necessary for the transaction, e.g., shopping and billing address, credit card information, etc., and the shopping cart will carry out the remaining steps required to make the purchase from one or more merchants 60 or by third party 90. Merchant 60 may be notified of a consumer's purchase through the central station 10. The consumer may view his or her purchases. Items may be added to or deleted from the shopping cart without reloading the main screen. System 100 also provides for at-home setup and troubleshooting 80. Once audio visual equipment has been purchased, the user may request assistance in setting up the equipment at the consumer's home or other place specified via the at-home setup and troubleshooting 80. Thus, the present invention provides a full service system from beginning to end.

The foregoing merely illustrates the principles of the invention. It will thus be appreciated that those skilled in the art will be able to devise various arrangements which, although not explicitly described or shown herein, embody the principles of the invention and are thus within its spirit and scope. For example, a preferred embodiment includes one or more of the following features:

Consumer Focused Categories - pre-packaged systems merchandised by lifestyle (*Living Room, Dorm Theater, Kitchen, etc.*) and segregated within each price range by "Good-Better-Best."

Framed Shopping Cart - the symbiotic nature of audiovisual products dictates that consumers be able to see their purchases at all times. Items can be added to or deleted from the shopping cart frame without reloading the main screen.

One-Click Ordering - for faster, simpler shopping.

5 System Basket - this enhanced shopping cart will allow returning consumers to view their existing systems as separate entities on or site. Consumers will be able to name their systems (*Main System, Home Theater, Basement etc.*) in profiles stored on the system's servers.

Gift Mailing - with selectable packaging and cards.

10 Credit Card Tracking - to alleviate repeat submission of card data, to allow the use of multiple credit cards, to notify the user of expiration dates, and so on.

Selectable Shipping Methods, including product-specific shipping methods.

Third Party Financing -customers will be able to finance part or all of their purchases, including online financing through a third-party partnership, with real-time credit checking.

15 Order Tracking - via arrangements with major carrier online tracking systems such as *UPS, Federal Express* and the *U.S. Postal Service*.

20 Active consumers may receive "Points" redeemable toward future purchases. These points will be earned on purchases through the site operator as well as for filling out feedback forms and surveys. Points will be a method of rewarding consumers for their loyalty, encouraging them to buy all their entertainment hardware and software through the provider of the configuration system.

These and other system configuration and optimization features will be evident to one of ordinary skill in the art in view of this disclosure, and are included within the scope of the following claims.

CLAIMS

1. A method carried out with the aid of a computer system for providing configuration information relating to consumer electronics systems, comprising the steps of:
storing in the computer system at least technical and price information relating to
5 a plurality of components from which a plurality of consumer electronics systems can be configured;
inputting consumer information to the computer system relating to at least one characteristic of a consumer electronics system or component; and
obtaining from the computer system configuration information relating to a
10 consumer electronics system.
2. The method of claim 1 wherein the step of storing comprises storing information relating to a plurality of the following component characteristics: inputs; outputs; power requirements; performance specifications; color; weight; dimensions; format; size; finish; merchandising classification, placement; intended use(s); feature set; functionality; compatibility
15 with other components; reliability; pricing.
3. The method of claim 1 wherein the step of inputting comprises inputting information relating to a plurality of the following consumer characteristics: general consumer electronics system classification; performance characteristics; pricing; power; color; dimensions; format; size; finish; placement; intended use, including intended use with other components or
20 within a consumer electronics system; feature set; functionality.
4. The method of claim 1 wherein the step of obtaining comprises obtaining information from the computer system identifying at least one consumer electronics component in the context of at least one consumer electronics system.
5. The method of claim 1 wherein the step of obtaining comprises obtaining
25 information from the computer system relating to at least one of: connection of at least one consumer electronics component in at least one consumer electronics system; and physical placement of at least one consumer electronics component in a room.
6. The method of claim 1 wherein the step of storing comprises storing information relating to at least one of audiovisual consumer electronics components and systems, the step of
30 inputting comprises inputting information relating to at least one of audiovisual consumer

electronics components and systems, and the step of obtaining comprises obtaining information relating to at least one of audiovisual consumer electronics components and systems.

7. A computer system for providing configuration information relating to consumer electronics systems, comprising:

5 a data storage device in which is stored at least technical and price information relating to a plurality of components from which a plurality of consumer electronics systems can be configured;

10 a processor configured to access the data storage device and receive consumer information input to the computer system relating to at least one characteristic of a consumer electronics system or component; and

programming executable by the processor to provide configuration information relating to a consumer electronics system based on information stored in the storage device and information input to the computer system.

15 8. The computer system of claim 7 wherein the storage devices stores information relating to a plurality of the following component characteristics: inputs; outputs; power requirements; performance specifications; color; weight; dimensions; format; size; finish; merchandising classification, placement; intended use(s); feature set; functionality; compatibility with other components; reliability; pricing.

20 9. The computer system of claim of claim 7 wherein the processor is configured to receive the following consumer characteristics information: general consumer electronics system classification; performance characteristics; pricing; power; color; dimensions; format; size; finish; placement; intended use, including intended use with other components or within a consumer electronics system; feature set; functionality.

25 10. The computer system of claim 7 wherein the processor is programmed to identify at least one consumer electronics component in the context of at least one consumer electronics system from the stored and input information.

30 11. The computer system of claim 7 wherein the processor is programmed to provide information relating to at least one of: connection of at least one consumer electronics component in at least one consumer electronics system; and physical placement of at least one consumer electronics component in a room from the stored and input information.

12. The computer system of claim 7 wherein the storage device stores information relating to at least one of audiovisual consumer electronics components and systems, the processor is configured to receive information input to the computer system relating to at least one of audiovisual consumer electronics components and systems, and the processor is
5 programmed to provide information relating to at least one of audiovisual consumer electronics components and systems from the stored and input information.
13. The computer system of claim 7, wherein the storage device stores a database managed by the computer system, the database holding the component technical and price information.
- 10 14. The computer system of claim 7 comprising an input device coupled to the processor.
15. The computer system of claim 14 wherein the input device includes at least one of a keyboard and a mouse.
- 15 16. The computer system of claim 7 wherein the processor's coupled to a communications network and is configured to secure consumer information from the communications network.
17. A system for providing configuration information relating to consumer electronics systems, comprising:
a database that stores component information that includes operational
20 characteristics of a plurality of available components,
a processor that is configured to receive consumer information input to the system relating to configuring a system that includes a plurality of components,
wherein
the processor is further configured to identify at least one plurality of selected
25 components based on the input consumer information and the stored component information.
18. The system of claim 17 wherein the consumer information include at least one of: compatible inputs, available outputs, frequency, power, and performance.
19. The system of claim 17 wherein the stored information also includes costs associated with the plurality of available components, and the consumer information constraints
30 include a cost target, and wherein

the processor is further configured to identify the plurality of selected components based further upon a corresponding cost of the plurality of selected components relative to the cost target.

20. The system of claim 17 wherein the component information also includes inter-connection options associated with each available component of the plurality of available components, and

the processor includes a wiring configurator that is configured to determine a set of selected interconnect devices for interconnecting the selected components of the plurality of selected components in dependence upon the component information and the interconnect options associated with each of the selected components.

21. The system of claim 20 wherein the component information stored in the database includes operational characteristics of each available interconnect device of a plurality of available interconnect devices, and

the wiring configurator determines the set of selected interconnect devices based on the operational characteristics of each available interconnect device, the set of selected interconnect devices being selected from the plurality of available interconnect devices.

22. The system of claim 20 wherein the plurality of available interconnect devices includes at least a plurality of cables, wires, connectors, adapters, switches, distributors, transmitters, and receivers.

23. The system of claim 20, wherein the processor further provides graphic information representing the plurality of selected components, as interconnected using the plurality of selected interconnect devices.

24. The system of claim 20, wherein the processor further provides a set of instructions that facilitates interconnecting the plurality of selected components using the plurality of selected interconnect devices.

25. The system of claim 17, wherein the processor is further configured to determine the at least one plurality of selected components based on an environment input to the processor in which the plurality of selected components are to operate.

26. The system of claim 17, wherein the processor includes a room configurator that is configured to facilitate creation and modification of a data set that serves to describe the

environment in which the plurality of selected components are to operate in dependence upon environment information input to the processor.

27. The system of claim 17, wherein the processor is further configured to issue purchase requests to one or more merchants for acquiring one or more of the components identified by the processor.

28. The system of claim 27, wherein the plurality of available components is formulated based on information provided by one or more merchants.

29. The system of claim 17, wherein the consumer information includes a specific identification of one or more selected components to be included in the plurality of selected components.

30. The system of claim 17 wherein the database is distributed among a plurality of storage devices.

31. The system of claim 17 wherein the processor is configured to access at least one of the plurality of storage devices on the Internet.

32. A method of facilitating a purchase of one or more selected components, comprising the steps of:

storing in a database component information that includes operational characteristics of a plurality of available components,

receiving user information;

identifying a plurality of selected components based on component information and user information the selected components being identified from the plurality of available components.

33. The method of claim 32 wherein the component information includes operational characteristics including at least one of: compatible inputs, available outputs, frequency, power, and performance.

34. The method of claim 32 wherein the component information includes costs associated with the plurality of available components, and

the user information includes a cost target, and

wherein identifying the plurality of selected components is based further upon a corresponding cost of the plurality of selected components relative to the cost target.

35. The method of claim 32 wherein the component information also includes inter-connection options associated with each available component of the plurality of available components, and including the step of determining a set of selected interconnect devices for interconnecting the selected components of the plurality of selected components in dependence upon the operational characteristics and the interconnect options associated with each of the selected components.

36. The method of claim 35 wherein the component information stored in the database includes operational characteristics of each available interconnect device of a plurality of available interconnect devices, and including the steps of

determining the set of selected interconnect devices is based on the operational characteristics of each available interconnect device, the set of selected interconnect devices being selected from the plurality of available interconnect devices.

37. The method of claim 35 wherein the plurality of available interconnect devices includes at least a plurality of cables, wires, connectors, adapters, switches, distributors, transmitters, and receivers.

38. The method of claim 35, including the step of providing a graphic representation of the plurality of selected components, as interconnected using the plurality of selected interconnect devices.

39. The method of claim 35 including the step of providing a set of instructions that facilitates interconnecting the plurality of selected components using the plurality of selected interconnect devices.

40. The method of claim 32, including the step of determining the at least one plurality of selected components based on the environment of use information.

41. The method of claim 40 including the step of providing a data set that serves to describe the environment in which the plurality of selected components is to operate.

42. The method of claim 32 including the step of issuing purchase requests for acquiring one or more of the selected components identified by the method.

43. The method of claim 32, wherein the user information includes a specific identification of one or more selected components to be included in the plurality of selected

components identified by the method.

44. The method of claim 32 including the step of identifying one or more alternative components related to the components identified by the method, via at least one of: a cross-product access function, and an up-product access function.

5 45. A system for providing wiring information for interconnecting components in an electronics system comprising:

a database that includes component information that includes interconnect features of a plurality of available components, and

10 a processor that is configured to receive an identification of a plurality of selected components, the selected components being selected from the plurality of available components, and to determine a set of selected interconnect devices for interconnecting the selected components of the plurality of selected components in dependence upon the interconnect features associated with each of the selected components.

15 46. The system of claim 45 wherein the database includes operational characteristics of each available interconnect device of a plurality of available interconnect devices, and the processor is configured to determine the set of selected interconnect devices based on the operational characteristics of each available interconnect device, the set of selected interconnect devices being selected from the plurality of available interconnect devices.

20 47. The system of claim 45 wherein the plurality of available interconnect devices includes at least a plurality of cables, wires, connectors, adapters, switches, distributors, transmitters, and receivers.

48. The system of claim 45 wherein the processor is configured to provide a graphic information representing of the plurality of selected components interconnected using the plurality of selected interconnect devices.

25 49. The system of claim 45 wherein the processor is configured to provide a set of instructions that facilitates interconnecting the plurality of selected components using the plurality of selected interconnect devices.

50. The system of claim 45 wherein the processor is configured to determine the at least one plurality of interconnect devices based on an environment in which the plurality of selected components are to operate.

51. The system of claim 45 wherein the processor includes a room configurator that is configured to provide a data set describing the environment in which the plurality of selected components are to operate.

52. The system of claim 45 wherein the processor is further configured to issue
5 purchase requests to one or more merchants for acquiring one or more of the selected interconnect devices.

53. A method of facilitating a purchase of one or more interconnect devices,
comprising the steps of:

10 storing in a database component information that includes interconnect features of
a plurality of available components,
receiving an identification of a plurality of selected components, the selected
components being selected from the plurality of available components, and
identifying a set of selected interconnect devices for interconnecting the selected
components of the plurality of selected components in dependence upon the interconnect features
15 associated with each of the selected components..

54. The method of claim 53 including the step of providing a graphic representation
of the plurality of selected components interconnected using the plurality of selected interconnect
devices.

55. The method of claim 53 including the step of providing a set of instructions that
20 facilitates interconnecting the plurality of selected components using the plurality of selected
interconnect devices.

56. The method of claim 53 including the step of issuing purchase requests for
acquiring one or more of the selected interconnect devices.

57. A configuration system for configuring an electronics system comprising:
25 a user database that is configured to contain a user profile that is related to
characteristics of an electronics system comprising a plurality of components associated with the
user, and

at least one of:

30 a system configurator that is configured to facilitate an identification of one or
more available components for use in the system, based on the user profile,

a room configurator that is configured to facilitate an identification of physical placements of one or more components of the plurality of components, based on the user profile, and

5 a wiring configurator that is configured to facilitate an identification of interconnection materials for connections among the plurality of components, based on the user profile.

58. The configuration system of claim 57 wherein the user profile includes a unique identifier that is associated with the user, and

10 the configuration system is configured to facilitate storage and retrieval of the user profile, based on the unique identifier.

59. The configuration system of claim 58 wherein the user database is further configured to store multiple user profiles associated with the user which may be retrieved by the configuration system.

15 60. The configuration system of claim 57 wherein each of the at least one system, room, and wiring configurators are configured to provide access to the user database to facilitate retrieval, modification, and storage of the user profile.

61. A computer system for providing configuration information relating to electronics systems, comprising:

20 a data storage device in which is stored at least technical and price information relating to a plurality of components from which a plurality of electronics systems can be configured;

a processor configured to access the data storage device and receive information input to the computer system relating to at least one characteristic of an electronics system or component; and

25 programming executable by the processor to provide configuration information relating to an electronics system based on information stored in the storage device and information input to the computer system.

62. A system for providing configuration information relating to electronics systems, comprising:

a database that stores component information that includes operational characteristics of a plurality of available components,

a processor that is configured to receive user information input to the system relating to configuring a system that includes a plurality of components,

wherein

the processor is further configured to identify at least one plurality of selected components based on the input user information and the stored component information.

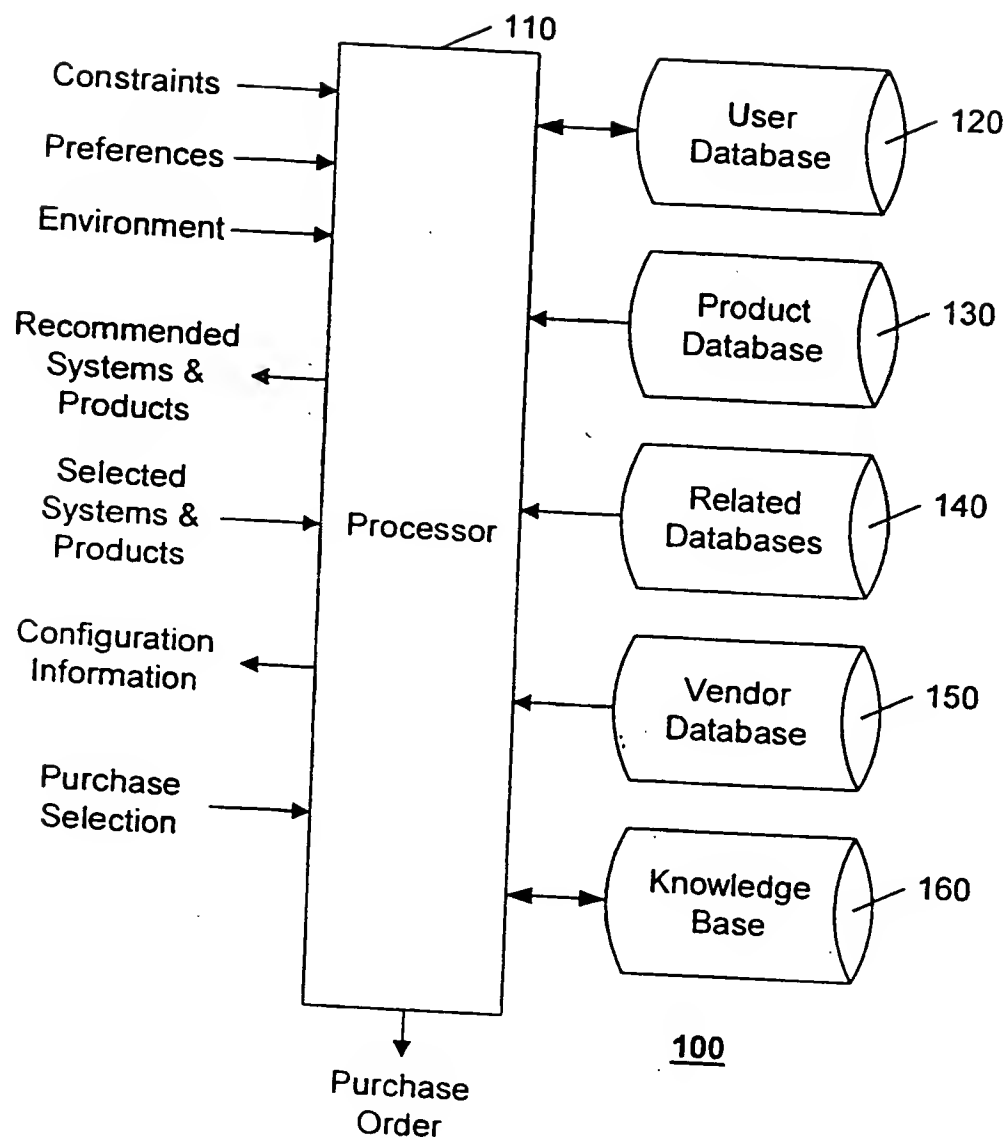


FIG. 1

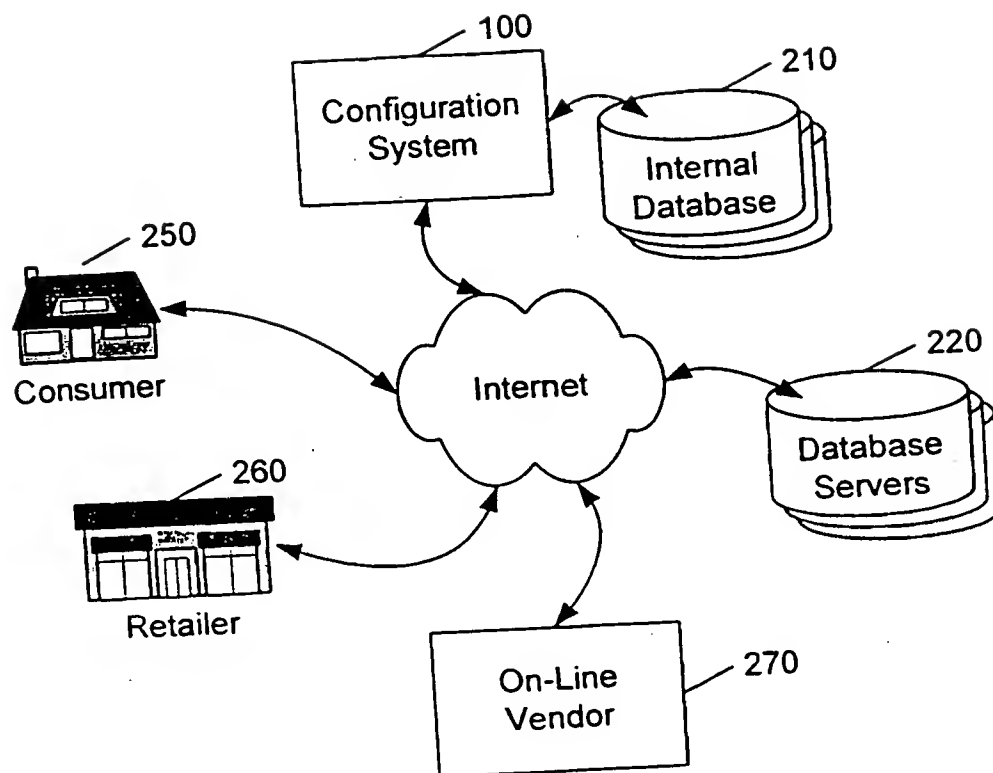


FIG. 2

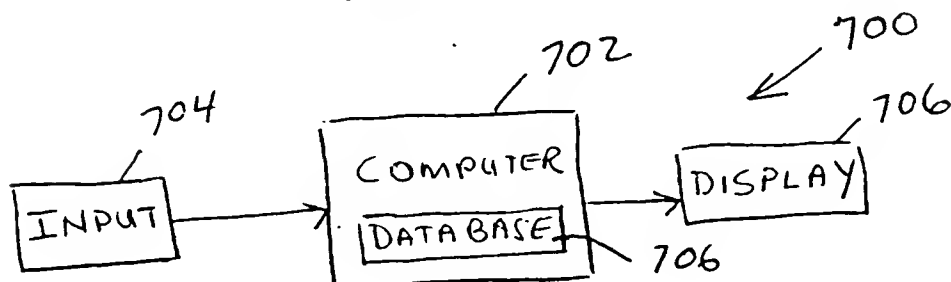


Fig. 7

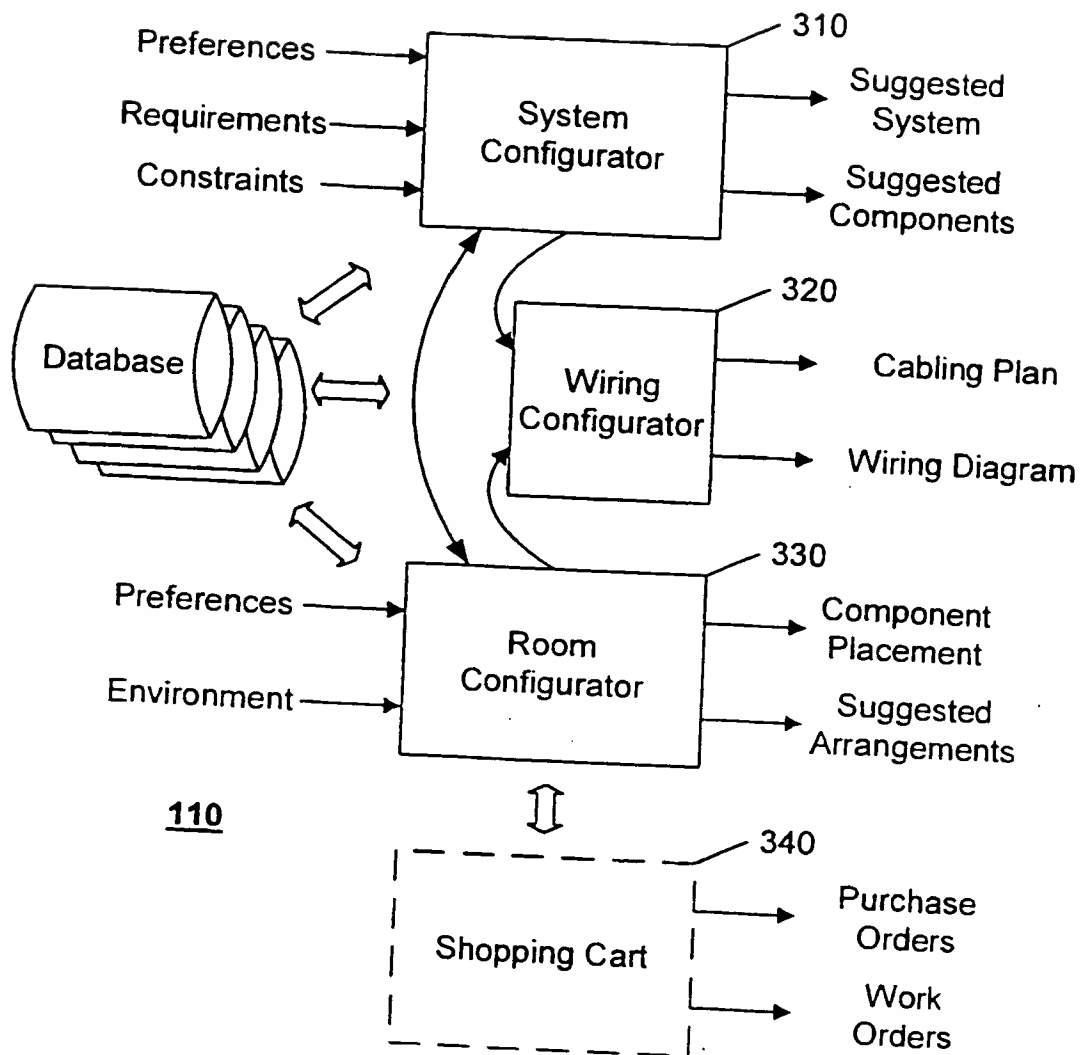


FIG. 3

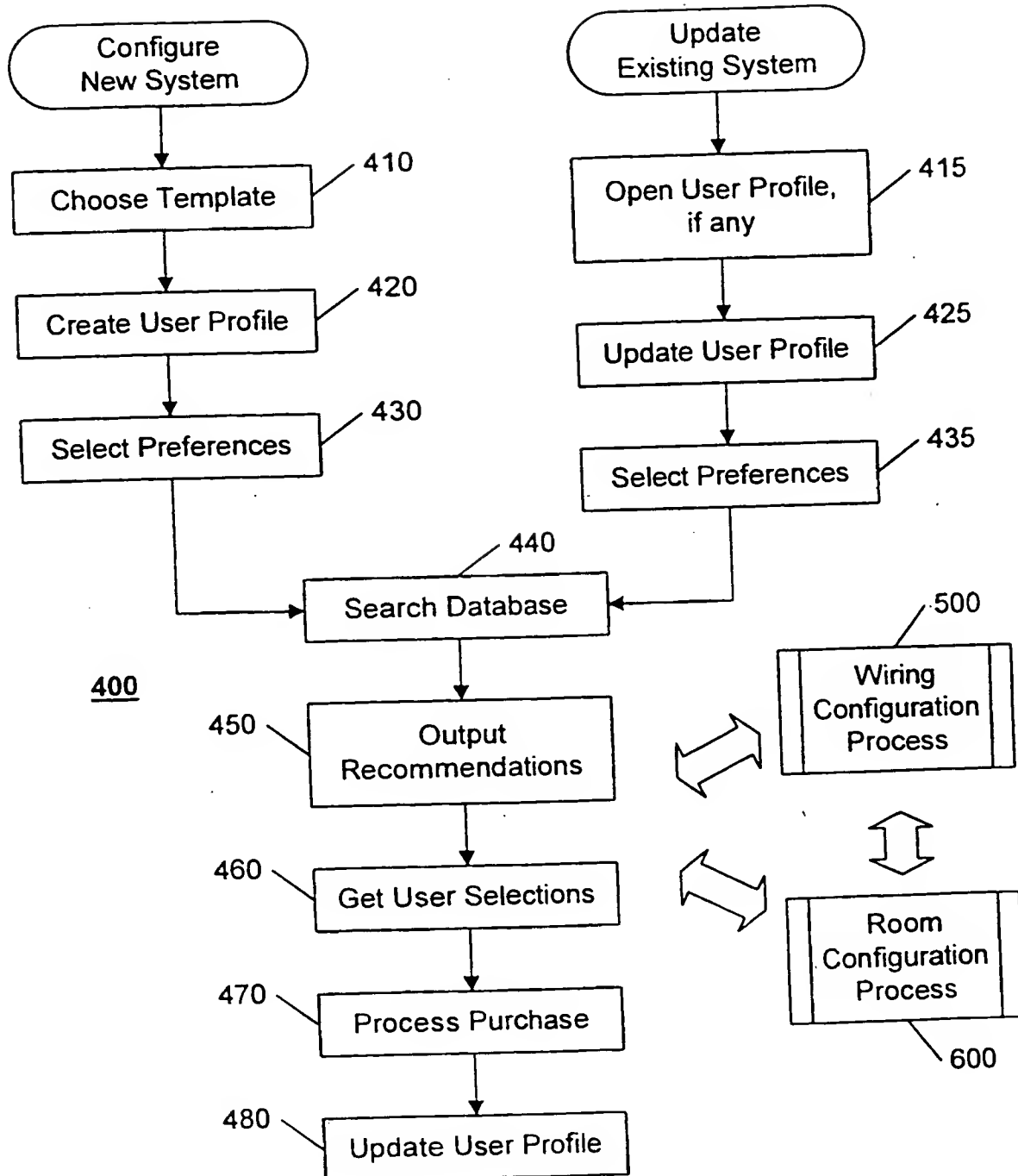


FIG. 4

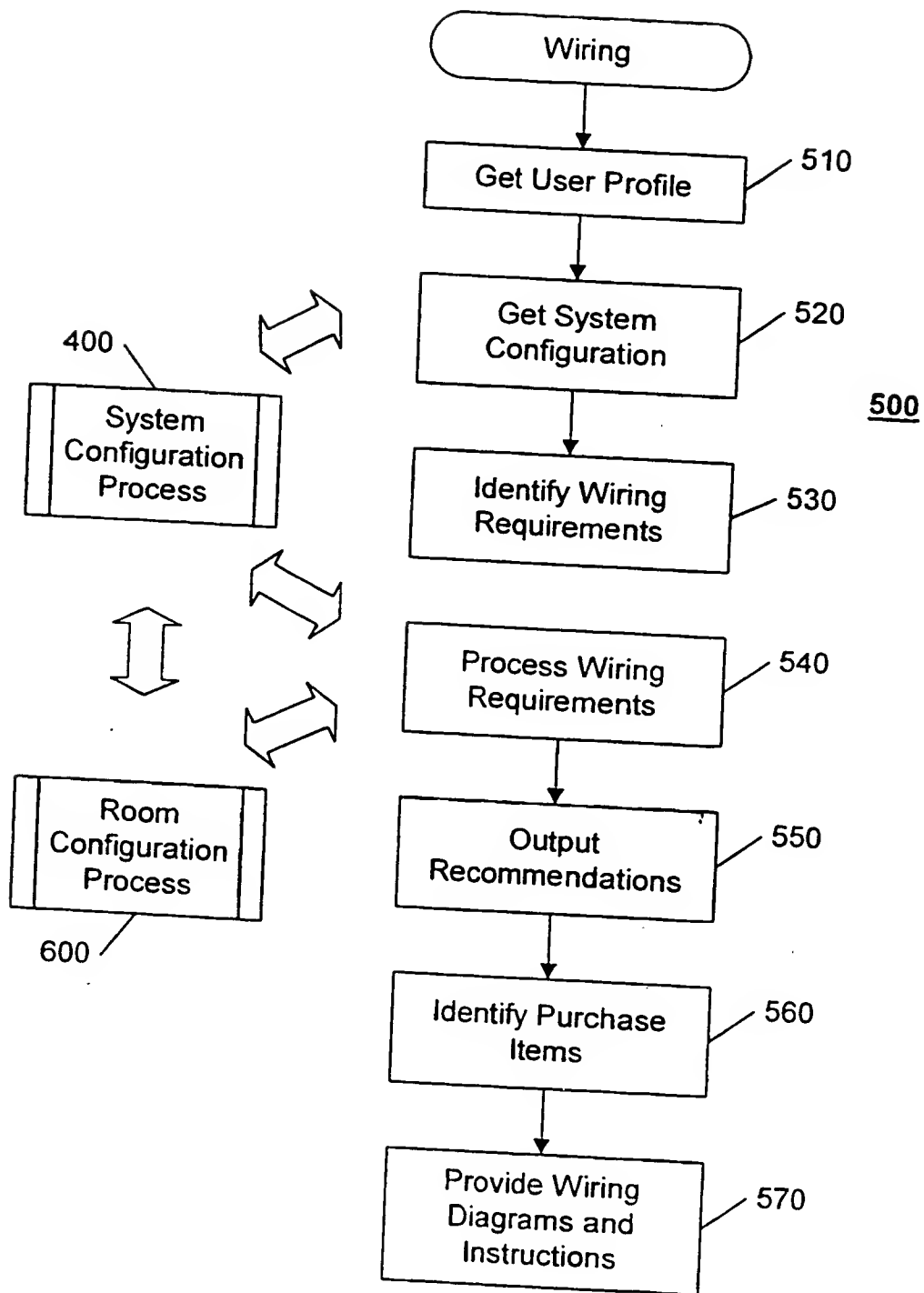


FIG. 5

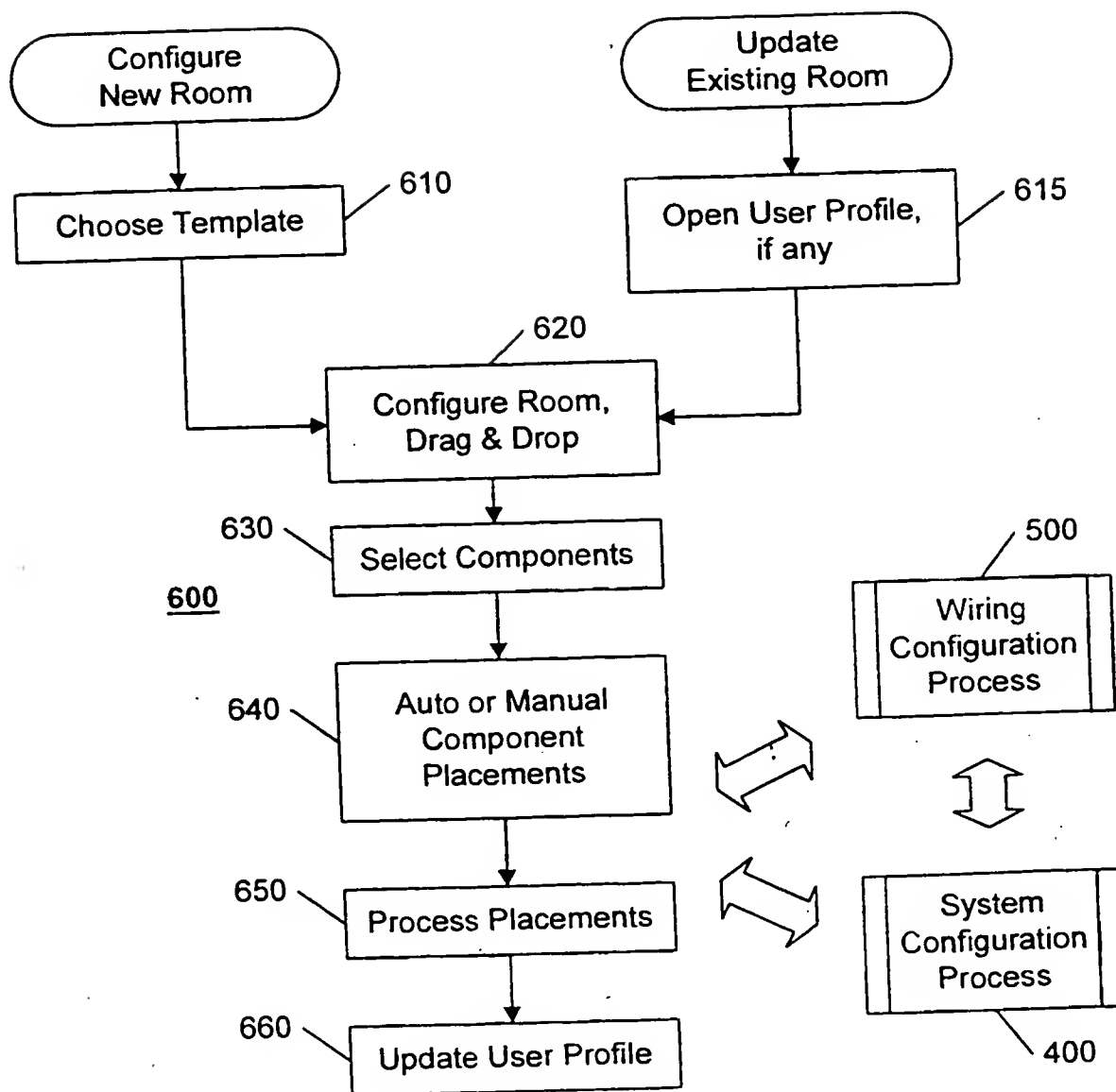
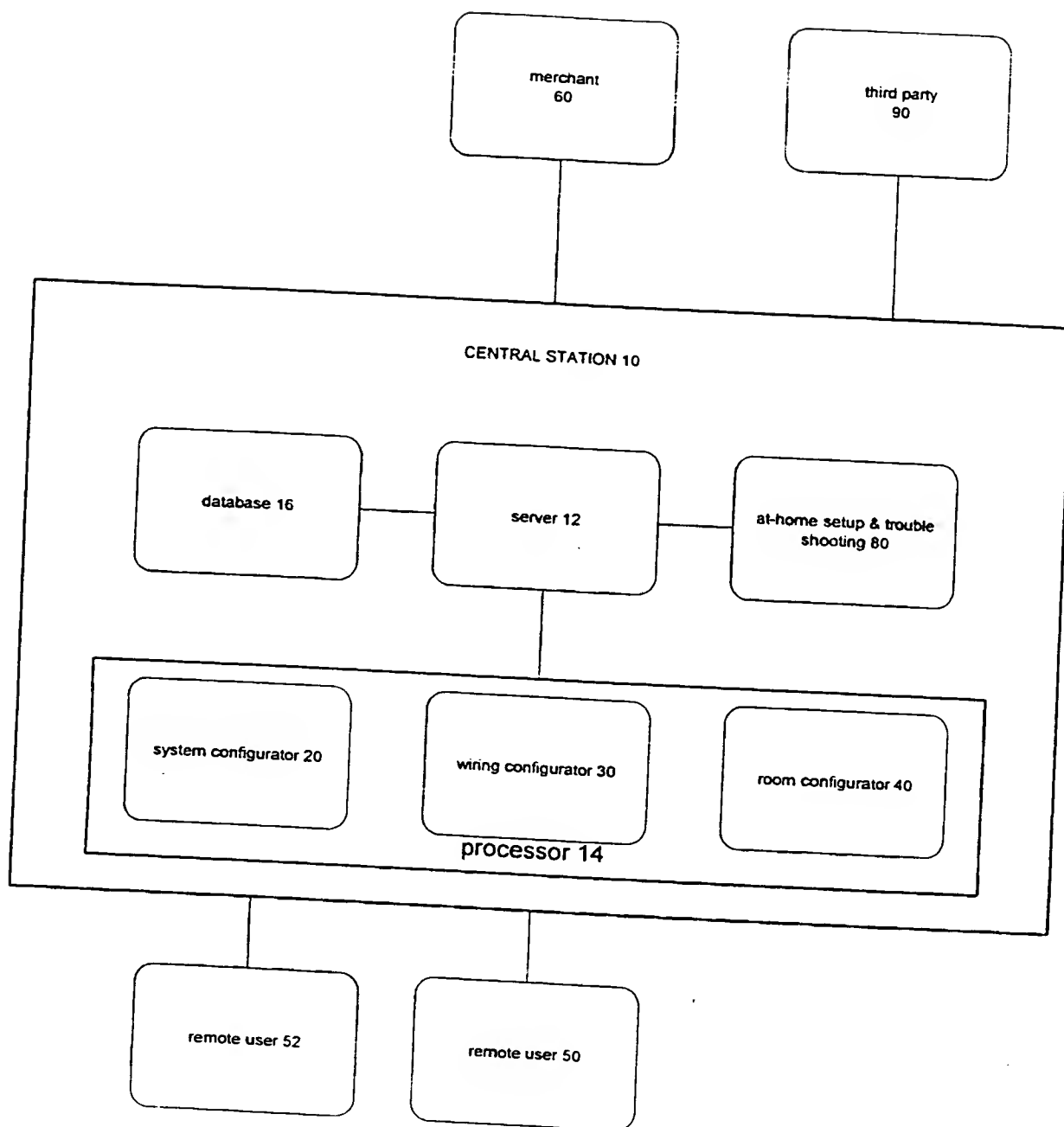


FIG. 6



100

FIG. 8